AMENDMENTS TO THE CLAIMS

1. (Currently amended) A particle separator for separation of first and second mixed fluids, as hereinbefore defined, comprising a non-metallic housing containing an annular through-flow chamber, an inlet to the housing for introduction of a mixture of the first and second fluids into said through-flow chamber, a portion of said through-flow chamber being encircled by a magnetic coil, an anode encircled by said chamber portion, coil cooling means for cooling the magnetic coil by means of a first coolant, a cooling conduit extending through said chamber portion and adapted to cool said anode by means of a second coolant, a high voltage pulsating DC power source connected to said magnetic coil, a further DC power source connected to said anode, fluid separation means positioned downstream of said through-flow chamber portion to receive ~~energised~~ energized fluid mixture that has been subjected to the magnetic field created by pulsing of the magnetic coil, the fluid separation means being so arranged as to separate the first and second fluids from the ~~energised~~ energized mixture.

2. (Original) The separator of claim 1, in which a pulsating DC power source is connected to said anode;

3. (Currently amended) The separator of claim 1 ~~or claim 2~~, wherein said anode is tubular.

4. (Currently amended) The separator of ~~any of the preceding claims~~ claim 1, wherein the non-metallic housing comprises one of glass, polyethylene, polypropylene, polybutylene, polyketone, polycarbonate, polyvinyl chloride, polyvinyl acetate, ceramic, wood, fibreglass, cross linked polymers, non-cross linked polymers, other non-magnetic materials, or mixtures thereof.

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5. (Currently amended) The separator of ~~any of the preceding claims~~ claim 1, wherein the non-metallic housing has a coated interior.

6. (Original) The separator of claim 5, wherein the coated interior is coated with a corrosion resistant material.

7. (Original) The separator of claim 6, wherein the coated interior is a friction reducing coating.

8. (Currently amended) The separator of ~~any one of the preceding claims~~ claim 1, wherein the anode is disposed within and near the axis of the cooling conduit.

9. (Currently amended) The separator of ~~any one of the preceding claims~~ claim 1, wherein two anodes are disposed in the chamber.

10. (Currently amended) The separator of claim 2, ~~or any one of claims 3 to 9 each as appended to claim 2,~~ wherein the pulsating DC power source to said anode is arranged to be synchronized with the pulsating DC power supply to said magnetic coil.

11. (Currently amended) The separator of ~~any one of the preceding claims~~ claim 1, wherein the pulsating DC power source to said magnetic coil pulses at an atomic resonance frequency so chosen as to match the frequency of discrete ions or elements of said first or second fluid.

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12. (Currently amended) The separator of ~~any of the preceding claims~~ claim 1, wherein the first and second coolants are selected from the group: distilled water, glycerine, a dielectric transformer coolant, and mixtures thereof.

13. (Currently amended) The separator of ~~any one of the preceding claims~~ claim 1, wherein the magnetic coil is wrapped around the housing.

14. (Original) The separator of claim 13, wherein the magnetic coil is torridly wrapped around the housing.

15. (Original) The separator of claim 14, wherein the magnetic coil is wrapped around the housing in a plurality of individual torridly compressed loops.

16. (Original) The separator of claim 15 in which said loops each comprise arcuate sections each of tuned length.

17. (Currently amended) The separator of ~~any one of the preceding claims~~ claim 1, wherein a magnetic coil is disposed in the cooling conduit spaced apart from said anode.

18. (Currently amended) The separator of ~~any one of claims 1 to 12~~ claim 1, wherein two magnetic coils are wrapped around the housing.

19. (Currently amended) The separator of ~~any one of claims 1 to 12~~ claim 1, wherein the magnetic coil is disposed in the housing.

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20. (Currently amended) The separator of ~~any one of the preceding claims~~ claim 1, wherein the anode is a member of the group: solid metal wire and a suitable core.

21. (Original) The separator of claim 20, wherein the metal is electrically conductive.

22. (Currently amended) The separator of ~~any one of the preceding claims~~ claim 1, further comprising an electro-magnetic shielding system disposed around the separator.

23. (Currently amended) The separator of ~~any preceding claim~~ claim 1 in which the portion of the chamber encircled by the magnetic coil is choked so as to diminish the diameter of the annular through-flow chamber.

24. (Currently amended) A separator as claimed in ~~any one of the preceding claims~~ claim 1 in which said fluid separation means is a laminar fluid separation means.

25. (Original) A separator as claimed in claim 24 in which the laminar fluid separation means comprises a funnel defining a first outlet within the funnel and a second annular outlet external to the funnel, the relative cross-sectional areas of the entrance to the funnel, and the annular space around the funnel entrance being so chosen according to the amount of the targeted element in the mixture to be subjected to separation.

26. (Currently amended) A separator as claimed in ~~any one of claims 1 to 23~~ claim 1 in which the fluid separation means is a cyclonic separator.

27. (Original) A separator as claimed in claim 26 in which the fluid separation means comprises two cyclonic separators.

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28. (Original) A laminar particle separator for liquid-liquid separation comprising a lower section comprising a non-metallic housing having an annulus and a chamber, at least one magnetic coil disposed adjacent the chamber and cooled with a first coolant, a high voltage pulsating DC power source connected to said magnetic coil; and a fluid inlet port connected to the housing, an upper section comprising a non-metallic separator tube connected to the housing and disposed within the housing, a first fluid outlet connected to the non-metallic separator tube, and a second fluid outlet connected to the annulus through the housing.

29. (Original) A cyclonic particle separator for liquid-liquid separation comprising a non-metallic housing with a chamber, at least one magnetic coil disposed adjacent the chamber and cooled with a first coolant, a high voltage pulsating DC power source connected to said magnetic coil, at least one cyclonic separator disposed in the chamber and wherein said cyclonic separator has a fluid inlet, and brine outlet, and a cyclonic separator freshwater outlet; and a freshwater outlet fluidly connected with the cyclonic separator freshwater outlet.

30. (Currently amended) A laminar method for particle desalination comprising using a tube and a magnetic coil disposed in a chamber, flowing seawater into the chamber and out of a brine outlet and a freshwater outlet and simultaneously ~~energising~~ energizing the magnetic coil, creating freshwater in the chamber, flowing the freshwater near the tube and attracting the freshwater into a separator tube; and flowing the freshwater from the separator tube into the freshwater outlet.

31. (Currently amended) A method of separating a selected component from a mixture of fluids, as hereinbefore defined, comprising introducing the mixture to a chamber and subjecting the mixture in a portion of the chamber to a magnetic field created by subjecting a

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liquid-cooled coil encircling said chamber portion to DC voltage pulses of characteristics chosen to ~~energise~~ energize the selected component of the mixture, and whist the selected component remains at least partially ~~energised~~ energized, using a separation means which is adapted to divert the ~~energised~~ energized components to a different outlet from that to which relatively ~~unenergised~~ unenergized components of the mixture pass.

32. (Currently amended) The method of claim 31, wherein said ~~energising~~ energizing comprises using at least one pulsating frequency which matches the atomic frequency of at least one component being separated.

33. (Original) The method of claim 32, where a plurality of atomic frequencies of materials are matched through a digital indexing through specific frequencies using a magnetic field.

34. (Original) The method of claim 33, wherein the matching step is performed using a magnetic field using discrete atomic (NMR) frequencies.

35. (Currently amended) A method as claimed in ~~any one of claims 31 to 34~~ claim 31 in which said separation means employs a laminar method for separating two flows of materials, a separator tube being arranged to separate the two laminar flows to direct said flows to different outlets.

36. (Original) The method of claim 35, wherein separated material flows through the separator tube using the Coanda effect.

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37. (Currently amended) A method as claimed in ~~any one of claims 31 to 34~~ claim 31 in which said separation means employs a cyclonic method for creating two separate flows of materials.

38. (Currently amended) The method of ~~any one of claims 31 to 37~~claim 31, wherein an anode is located in said portion of the chamber and said anode is simultaneously ~~energised~~ energized with said magnetic coil.

39. (Currently amended) A cyclonic method for particle desalination comprising using a tube and a magnetic coil disposed in a chamber, flowing seawater into the chamber and out of a brine outlet and a freshwater outlet and simultaneously ~~energising~~ energizing the magnetic coil, creating freshwater in the chamber, using cyclonic forces to maintain a separation between the freshwater in the chamber and the seawater flowing into the chamber; and flowing the freshwater near the tube and attracting freshwater from the cyclonic separator outlet into the freshwater outlet.

40. (Currently amended) The method of ~~any one of claims 31 to 38~~ claim 31 in which the mixture is in the form of ~~fluidised~~ fluidized finely ground dry materials.

41. (Currently amended) The method of ~~any one of claims 31 to 39~~ claim 31 in which the mixture is a mixture of liquids.

42. (Original) The method of claim 40 in which the mixture is salt water.

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